

## Abstract Of The Disclosure

An anti-microbial filter (105) for a micro-fluidic system (100) includes a silicon-based filter membrane (213) having holes (218) formed therein. The membrane (213) is formed on a substrate (211). One side of the filter membrane (213) has an anti-microbial coating (216) between the holes (218) on the filter membrane (213) and the other side can include filter supports formed from a silicon substrate. A method for making the anti-microbial filter (105) includes forming a filter membrane (213) on a substrate (211), forming holes (218) in the membrane (213) by providing a filter mask (215) and etching holes (218) through holes (222) in the mask (215). Then portions of the substrate (211) are removed from the filter membrane (213) using a masking and etching process to expose the holes (218). An anti-microbial coating is applied to the membrane (213) adjacent the holes (218).